UNITED NATIONS

Framework Convention on Climate Change

Distr.
GENERAL

FCCC/SBSTA/1996/16/Add.1
14 November 1996

ENGLISH ONLY

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE
Fourth session
Geneva, 16-18 December 1996
Item 4 (a) of the provisional agenda

METHODOLOGICAL ISSUES: LONGER-TERM PROGRAMME OF WORK

Note by the secretariat

Addendum

PROJECT DESCRIPTIONS[a]

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to assess all available scientific, technical and socio-economic research in the field of climate change. The IPCC is organized into three working groups: Working Group I concentrates on the science of the climate system, Working Group II on impacts and response options, and Working Group III on economic and social dimensions.

PROJECT No. 1

Type of methodology: Assessing the impacts of climate change

Project title: Seven steps for the assessment of the vulnerability of coastal areas to sealevel rise

Organization: Intergovernmental Panel on Climate Change (IPCC)

[a] A number of international organizations and intergovernmental organizations attended the meeting on 4 and 5 July 1996 but did not submit information on ongoing methodological work to the secretariat.

Description:	Tool to identify and assess physical, ecological and socio-economic vulnerabilities to sealevel rise and other coastal impacts of climate change; understand the development and socio-economic factors affecting vulnerability; assess ways of reducing vulnerability; and evaluate a country's capacity for implementing a response.
Funding:	Full funding borne by the IPCC
Completed:	September 1991

PROJECT No. 2

Type of methodology:	Assessing the impacts of climate change
Project title:	IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptations
Organization:	Intergovernmental Panel on Climate Change (IPCC)
Description:	To assess the impact of potential climate change and to evaluate appropriate adaptations through a study framework that allows comparable assessments in different geographical regions, economic sectors and countries. Involves estimations of the differences in environmental and socio-economic conditions projected to occur with and without climate change. Also involves assessment of autonomous adaptation. The guidelines are available in the six official languages of the United Nations.
Funding:	Not disclosed
Completed:	November 1994

PROJECT No. 3

Type of methodology:	Assessing impacts of climate change
Project title:	Climate change impact assessment and adaptation strategies
Organization:	UNEP/Institute for Environmental Studies, Vrije University, Amsterdam

Programme:	(a)	Development of a handbook on methods for climate change impact assessment and adaptation strategies
	(b)	Coordination with the Netherlands Climate Studies Assistance Programme
Description:	(a)	The purpose of the handbook is to assist countries in setting up and conducting climate change impact and adaptation studies. The handbook may be regarded as an elaboration of the IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptations. It gives general guidance on impact studies, adaptation strategies and integrated assessment and gives an overview of available methods, models, etc. together with their respective advantages and disadvantages.
	(b)	In this programme, climate change country studies will be funded (at present seven developing countries have expressed their interest in participating in these studies). These studies will cover emission inventories, mitigation studies and impact and adaptation studies. It is anticipated that they will contribute through the input of the participating countries and the technical assistance to further development of existing methodologies and methodologies in preparation.
Implementation status:	(a)	Project almost finished
	(b)	Programme started 1 July 1996
Funding:	(a)	UNEP (US$ 250,000)
	(b)	Netherlands Ministry of Foreign Affairs (US$ 4 million)
Completion date:	(a)	First draft version, September 1996
	(b)	Final, July 1998

PROJECT No. 4

Type of methodology:	Assessing impacts of climate change
Project title:	Country case studies of sources and sinks of greenhouse gases (GF/0103-92-01)
Organization:	UNEP Atmosphere Unit

Description: This project is supporting the application and testing of the draft handbook on methods for assessing the impacts of climate change and adaptation measures being developed under UNEP project FP/0103-94-01. UNEP is providing technical and financial assistance to national study teams in Antigua and Barbuda, Cameroon, Estonia and Pakistan to develop national country studies based on this draft handbook.

Implementation status: This GEF-funded project began in March 1996. The first meeting of national teams from Antigua and Barbuda, Cameroon, and Estonia was held in July 1996. UNEP is in the process of completing agreements with the four participating countries (July 1996).

Funding: US$ 2 million (from GEF)

Completion date: September 1997

PROJECT No. 5

Type of methodology: Assessing impacts of climate change

Project title: Interagency network on climate and human health

Organization: World Health Organization (WHO)

Description: The core group of United Nations agencies in this activity are WHO, WMO and UNEP. An external group of experts and institutions is informally connected with the network. The network will form a component of the Climate Agenda. The goal is threefold: (1) provide guidance to countries on health impact assessment and mitigation; (2) enable the exchange of information on climate and health; and (3) act as the United Nations lead group of experts in impact assessment and determination of research priorities. These goals will be achieved within the programmes of work of the United Nations agencies involved and with the instruments at their disposal (expert advisory panels, collaborating centres, joint work programmes with non-governmental organizations, governing bodies).

Implementation status: The first phase will be finalized before the end of 1996 with the publication of a policy paper for the guidance of health sector

	decision-makers who need to develop adaptive programmes, based on national health impact assessments. Two other documents have been published in 1996 (a chapter on human population health impacts in the IPCC Second Assessment Report - WGII, and a monograph entitled, "Climate change and human health"). Fund-raising has begun for the financing of the second phase. A mutually agreed project description has been prepared.
Funding:	1993-1996: US$ 450,000 (Phase 1) Sources: Netherlands, United States Environmental Protection Agency, UNEP, WMO and WHO 1996-1998: US$ 3.2 million (Phase 2): funds being sought
Completion date:	Not foreseen. An independent assessment is planned to mark the completion of phase 2.

PROJECT No. 6

Type of methodology:	Assessing impacts of climate change
Project title:	Tropical urban climate experiment
Organization:	World Meteorological Organization, Technical Commission for Climatology
Description:	This is an umbrella project for studies of the urban climate and its evolution. In particular the interaction between large and local scale climate processes is assessed. Various ways to improve energy efficiency in urban areas, for example, in the design and operation of urban buildings are assessed.
Implementation status:	This project was begun in 1984 and has been reported on at several conferences, e.g., the Technical Conference on Tropical Urban Climates held in Bangladesh.
Funding:	WMO has funded the coordination of the programme and major conferences. Projects are funded nationally or through bilateral programmes.
Completion date:	This activity will continue. A lead group is responsible for planning additional activities.

PROJECT No. 7

Type of methodology:	Assessment of climate change impacts
Project title:	Climate change impacts on population-supporting capacities
Organization:	Food and Agriculture Organization of the United Nations, in collaboration with the International Institute for Applied Systems Analysis, UNEP and the Environmental Change Unit (University of Oxford)
Description:	The project uses global circulation model data to assess the likely effects of global climate change on human food supply, including geographic variations based on country case studies. The study aims to develop an impact assessment methodology and to assess impacts.
Completion date:	Case studies of Kenya and Bangladesh have been finalized. A Nigerian study is ongoing.
Funding:	Shared between the organizations listed above.

PROJECT No. 8

Type of methodology:	Inventorying GHG emissions
Project title:	Methodology for calculating national greenhouse gas inventories
Organization:	Intergovernmental Panel on Climate Change, in cooperation with the Organisation for Economic Co-operation and Development Environment Directorate and the International Energy Agency
Description:	The methodology covers the major categories of GHG: • Energy • Industrial processes • Solvent use • Agriculture • Waste The methodology presented in the *IPCC Guidelines for National Greenhouse Gas Inventories* (*IPCC Guidelines, 1995*), comprises three volumes: Reference Manual, Workbook and

Reporting Instructions. Methods are described for estimating sources/sinks for CO_2, CH_4, N_2O and trace gases. The Reporting Instructions are designed for consistency, transparency, and comparability among national GHG inventories. They are used by Parties in reporting their GHG inventories, even in cases where the IPCC default emission/removal calculations and values are not used to estimate emissions. The simplified default calculations are described in a stepwise manner in the Workbook.
Revisions and additions to the *IPCC Guidelines (1995)* for fuel combustion, industrial processes, agricultural soils, waste, and methane from rice fields were accepted at the twelfth plenary of the IPCC in Mexico City, 11-13 September 1996. The proposed revisions will concern 'new' gases (HFCs, PFCs, SF_6), ozone and aerosol precursors, as well as the direct GHG (CO_2, CH_4, N_2O).

Implementation status: At its twelfth plenary session, the IPCC also adopted a programme of work for 1997. The activities planned for 1997 include: expert meetings on top-down and bottom-up emission estimates, land-use change and forestry, and improvement of guidelines methodology and the publication of the Revised 1996 Guidelines.

Funding: 1997, SwF 1 million

PROJECT No. 9

Type of methodology: Inventorying GHG emissions

Project title: Country case studies of sources and sinks of greenhouse gases (GF/0103-92-01)

Organization: UNEP Atmosphere Unit

Description: This GEF funded project supported the testing and refinement of the *IPCC Guidelines (1995)* through a series of nine country studies, four regional workshops and direct support to the IPCC/OECD/IEA inventory methodology development programme.

Implementation status: This project is nearing completion. Nine of the participating countries have completed national studies, all four regional workshops have been held and the IPCC guidelines have been

accepted by both the IPCC and the UNFCCC Conference of the Parties.

Funding: US$ 4.5 million

Completion date: December 1996

PROJECT No. 10

Type of methodology: Inventory

Project title: FAOSTAT

Organization: Food and Agriculture Organization of the United Nations

Description: FAO regularly compiles statistical data on basic agricultural products and related information for all countries and territories of the world. FAOSTAT includes data series on the categories below, where only the statistics relevant to climate change are listed:

(a) Area, yield and production of numerous crops, including rice;

(b) Livestock numbers and products (including those on ruminants);

(c) Population, land use and irrigation;

(d) Forests;

(e) Fertilizer production, trade and consumption.

Completion date: Ongoing activity

Funding: FAO regular programme

PROJECT No. 11

Type of methodology: Inventory

Project title: AFRICOVER

Organization: Food and Agriculture Organization of the United Nations

Description: AFRICOVER, which started in 1994, aims at establishing a digital geo-referenced database on land cover in Africa, including a major capacity-building component.

The preparation of AFRICOVER products relies on remote sensing data and a geographic information systems (GIS). The land cover is derived from visual interpretation of recent digitally enhanced high-resolution satellite images. FAO coordinates national inputs and ensures the adhesion to standard land cover terminology, legend and classification, geometry and topography, and technical methods.

Completion date: Ongoing activity. An inventory of each country takes between two and five years. The duration of the AFRICOVER project will be about 10 years.

Funding: Bilateral and multilateral assistance, with national and regional contributions. The total budget is estimated at US$ 50 to 60 million (US$ 1.5 to 4 per square km) for the mapping activities. The methodology development costs to date are US$ 600,000.

PROJECT No. 12

Type of methodology: Projecting global emissions.

Project title: Assessing mitigation measures and policies - Seminars on economic and energy-market impacts of various quantified emission limitation and reduction objectives under the UNFCCC (QELROs): the relevance of modelling to policy-making.

Organization: International Energy Agency

Description: The IEA organized a seminar on the issue of QELROs and what insights modelling can bring on the energy dimension of this issue to policy-makers. In particular, the need for differentiation, the notion of flexibility and the importance of timing with respect to aggregate abatement costs were discussed. Participants recognized the need for a more detailed approach, e.g. at the sectoral level, to study how best to exploit the flexibility of energy systems over time. Participants generally recognized the shortcomings of current modelling practices with respect to the description of infrastructures, and how they affect

energy choices over the long run. Another difficulty faced by modellers is the assessment of "real-world" policies and measures, with the danger of a disconnection between policy-makers questions and what models can deliver when looking at QELROs.

A second seminar, involving IPCC lead authors of Working Groups II and III covered 'no regrets' and minimum cost options for the abatement of GHG emissions on a sector-by-sector basis (electricity supply and demand, other stationary combustion sources and transportation). The seminar Closing the Efficiency Gap in Energy Responses to Climate Change, was held in November 1996.

Implementation status: First seminar held in May 1996
Second seminar to be held at the end of November 1996 (tentative)

Funding: Information not available

Completion date: Not available

PROJECT No. 13

Type of methodology: Projecting global emissions

Project title: World agriculture towards 2010

Organization: Food and Agriculture Organization of the United Nations

Description: "World agriculture towards 2010" is a forward-looking assessment by FAO of likely developments in world food and agriculture, including forestry and fisheries. It is relevant to the area of climate change as it describes some essential features of the future status of agriculture as compared to impact studies that assess the effect of climate change scenarios on present-day agriculture.

The study focuses mainly, but not only, on developing countries and examines two overlapping central themes: food security and natural resources, the environment and sustainability. The findings are from intensive FAO multidisciplinary analyses, providing a global picture from detailed assessments by country, product and agro-ecological zone. The study is often regarded as the most comprehensive analysis available on the agricultural potential of the land and water resources of developing countries.

Completion date: Ongoing activity

Funding:	FAO regular programme

PROJECT No. 14

Type of methodology:	Assessing technology transfer activities
Project title:	Market deployment of new energy technologies
Organization:	International Energy Agency
Description:	Assesses the market barriers to new energy technologies for eight energy technologies including refrigerators and freezers, advanced lighting, clean coal technologies and wind, photovoltaic and other renewable energy technologies
Implementation status:	Ongoing activity
Funding:	Funds have been provided from IEA budgets with additional support contributions from IEA member countries, in particular the United Kingdom
Completion date:	September 1996

PROJECT No. 15

Type of methodology:	Evaluating national technology needs
Project title:	Climate Technology Initiative (CTI), Task Force on Technology Aspects of National Plans
Organization:	IEA/OECD
Description:	The objective is to identify and develop mechanisms to:

(a) Improve methodologies for technology assessment and for technology transfer and adaptation;

(b) Enhance the capabilities of countries to conduct technology assessments as part of their national climate change action plans;

(c) Facilitate the exchange of information and expertise between all Parties to the UNFCCC on technology assessment and the development of technology measures in national plans.

Implementation status: The Task Force report is being considered by IEA/OECD member countries. The CTI status will be reported at the ministerial segment of COP 2 and at SBSTA.

PROJECT No. 16

Type of methodology: Evaluating the effectiveness of measures

Project title: Methods to evaluate projections and estimate the effects of policies and measures

Organization: International Energy Agency and OECD Environment Directorate - Annex I Experts Group on the UNFCCC

Description: This project aims to improve the transparency and comparability of GHG projection and effects of policies and measures, in the context of national communications to the UNFCCC. It hopes to shed light on issues related to monitoring of effects, and data requirements for proper assessment of measures and to improve understanding and confidence in projections and estimates of effects of policies and measures.

1993: "Methodologies for greenhouse gas policy impact assessment", a study of the relative merits of different modelling approaches.

1995: Survey of experts involved in national communications to identify main methodological issues with respect to GHG projections and effects of policies and measures.

Implementation status: Survey of experts on national communications conducted in 1995. Work plan to be submitted to the Annex I Experts Group.

Completion date: To be determined

PROJECT No. 17

Type of methodology:	Assessing mitigation technologies
Project title:	UNIDO inventory of energy efficient industrial technologies and processes (phase I)
Organization:	United Nations Industrial Development Organization (UNIDO)
Description:	The UNIDO inventory includes a wide range of industrial energy efficiency and fuel switching measures (technologies and processes), representing good current practice in developed countries in selected industrial sectors. The inventory includes information on specific industrial technologies and processes, as well as cross-cutting technologies such as efficient motor drive systems, lighting and co-generation. It is based on readily available spreadsheet software to enable the user to easily access data. The inventory gives details on energy savings, costs, environmental impacts, including GHG emissions, and further information on selected efficient industrial technologies.
Implementation status:	Inventory currently contains data for five energy-intensive industries (iron and steel, pulp and paper, cement, petroleum refining, nitrogen fertilizers), developed under phase I of the project. Dissemination to developing countries will be undertaken in phase II. Further information, including the addition of more technologies that are applicable to other energy-intensive industries, will be continuously added under phase II, subject to availability of funds.
Funding:	1996 - US$ 140,000 (phase I). 1997 - US$ 1.6 million (phase II).
Completion date:	Phase I - December 1996 Phase II - COP third session

PROJECT No. 18

Type of methodology:	Assessing mitigation technologies
Project title:	Computerized analytical tool to evaluate industrial technology options

Organization:	United Nations Industrial Development Organization (UNIDO)
Description:	Analytical tool providing a framework for industrial entities in developing countries to evaluate opportunities to reduce GHG emissions in energy-intensive industries through use of improved technologies. Allows the user to compare scenarios indicating the energy savings and emissions reduction potential of a range of technology applications. The tool utilizes inputs from: (a) a review of current practices of energy use and related GHG emissions in energy-intensive industrial sectors in developing countries and comparison with similar industries in developed countries that exemplify good current practice and (b) the UNIDO technology inventory on energy efficient and alternative fuel technologies. It employs layered spreadsheets using a four level hierarchy through which the user can move to a specific industrial sector, a stage of production activity within that sector, and on to specific processes and technologies appropriate to that production stage.
Implementation status:	Development of the tool will be completed by December 1996. Field testing, dissemination and training will be undertaken under phase II in 1997
Funding:	Phase I - Funded in conjunction with the UNIDO technology inventory
Completion date:	COP third session

PROJECT No. 19

Type of methodology:	Assessing mitigation technologies and processes
Project title:	Integrated Plant Nutrition System (INPS)
Organization:	Food and Agriculture Organization of the United Nations
Description:	One of the negative effects of agriculture on the environment is the emission of several greenhouse gases, due to inefficient use of valuable inputs such as fertilizers. FAO adopts and promotes a broad definition of inputs, including "physical" inputs (fertilizer, pesticides) and improved management. The Integrated Plant Nutrition System (INPS) identifies the best associations of various inputs needed to

balance plant nutrition and high yields, while sustaining soil fertility and controlling nutrient losses, in particular nitrous oxide emitted to the atmosphere. FAO collaborates with international and national agricultural research institutes to achieve this goal.

Completion date: Ongoing activities

Funding: Based on recent years and planned activities: FAO regular programme (US$ 500,000 per year) and bilateral trust fund contributions of about US$ 1 million per year.

PROJECT No. 20

Type of methodology: Assessing mitigation technologies

Project title: Comparing energy technologies

Organization: International Energy Agency

Description: Study published as a book, *Comparing Energy Technologies*, considers the state of the art in methodologies for assessing and comparing energy technologies, plus the strengths and weaknesses of current practice. It includes experts' reports on energy research and development approaches and assessment criteria in Canada, France, Italy, Japan, the Netherlands, the United Kingdom, the United States and the European Union.

Implementation status: Completed. A second study is planned for 1997 and will include China, India and the Republic of Korea and possibly several other developing countries

Funding: Support was received from the Government of Japan, the European Commission DG XII and the United Kingdom Department of Trade and Industry

Completion date: January 1996

PROJECT No. 21

Type of methodology: Assessing mitigation measures and policies

Project title:	Economics of greenhouse gas limitations establishment of a methodological framework for climate change mitigation assessment (phase I)
Organization:	UNEP Atmosphere Unit, in collaboration with Centre on Energy and the Environment - Riso
Description:	This project seeks to provide a methodological framework for climate change mitigation analysis and strategy development and provide a basis for national communications as required by the UNFCCC. It will also identify cost options for climate change mitigation and enhance institutional capacity in participating countries and involved regional "centres of experience".
Implementation status:	Although the project was signed in April 1996, the effective starting date is May 1996. So far, a meeting of the country coordinators took place in June 1996 and a training workshop for participating countries was conducted in August 1996.
Funding:	US$ 3 million (from GEF)
Completion date:	April 1998

PROJECT No. 22

Type of methodology:	Assessing mitigation measures and policies
Project title:	Methods for assessment of mitigation options
Organization:	Intergovernmental Panel on Climate Change (IPCC)
Description:	Examines the analytical methods and processes for selecting and analysing mitigation options that are best suited to the specific needs, conditions and national goals of individual countries, especially in developing and transitional economy countries. The purpose is to help policy analysts and decision makers to obtain objective information on the options and to develop coherent national plans.
Funding:	Funding fully borne by the IPCC
Completion date:	November 1994

- - - - -